

County (Schurz); Washoe County (Washoe Valley).

The total number of species now known to the author for Nevada is 78.

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Some New Syrphid Flies from North and South America (Diptera).

By FRANK M. HULL, University of Mississippi.

In this paper I present the descriptions of several new world species of Syrphidae. Two of these I collected on low growing herbage about the clearings of Barro Colorado Island. Others have been received from various sources. Types, unless otherwise stated, are in the author's collection.

***Planes chrysopressa* n. sp.**

Related to *vagans* Wied. Distinguished by the pile of the third and fourth abdominal segment; face black, a brownish-yellow stripe from eye to epistoma; mesonotum blackish and opalescent with a pair of stripes of yellow pile.

♀. Length 7 mm. *Head*: the vertex is shining brownish-black, the upper portion of the occiput dark brassy brown; viewed from the side it is covered with yellow pubescence. The upper part of the front is shining brassy black, bare of pubescence; there is a broad pale yellowish-brown transverse band of pubescence from eye to eye across the middle of the front, down the middle of which runs a very narrow almost bare line; the extreme lower front above the antennae is shining and bare of pubescence except for a narrow extension from the transverse band above it. Face metallic brassy black in ground color, except that along the anterior margin and front of the cheeks is a light brownish-yellow diagonal band from eye to epistoma. The face is broadly covered with pale yellow pubescence from lower edge of front down to the oral margin. Antennae elongate, the third joint half again longer than the first two joints, dark brown in color the arista pale yellowish brown. Pile of vertex and front light brassy yellow.

Thorax: mesonotum shining brownish black with a translucent coppery luster, a prominent almost whitish patch of pubescence on the inside of the humeri and viewed from behind a pair of widely separated, conspicuous, light silky yellow, short pilose vittae, that do not appear unless viewed in the proper light, and which run from the anterior margin back to where they are confluent with a wide, transverse area of similar pile lying in front of the scutellum. Between the pair of longitudinal vittae there is a much narrower, shorter median vitta of pile. Also on the posterior margin of the transverse suture there is a similar band of brassy pile confluent with the longitudinal stripes. Between all of these areas of pale pile there is considerable dense short black pile. Pile of the pleurae wholly pale yellowish beneath which is almost whitish pubescence. Scutellum brassy, almost coppery-black, with short pale pile and a pair of very delicate, slender pale yellow bristles on the posterior margin and more anteriorly along the margin two or more pairs of still shorter bristles.

Abdomen: first segment shining greyish black, perhaps slightly bluish. Second segment a little longer than wide, almost opaque black but with a faint shining steel-bluish luster present broadly over the middle. There is a small triangular,

sublateral, obscure brownish-yellow spot on either side of the segment, very widely separated; the extreme lateral margin of the segment is bright brassy. Whole of third and fourth segments brilliant brassy or golden, with pile somewhat the same color; the golden pile of the fourth segment is somewhat appressed and directed obliquely towards the midline.

Legs: femora black, the apices narrowly yellowish, the hind pair enormously thickened, its pile chiefly pale yellow with, along the ventral edge, numerous short black spines, and just outside of this on the apical portion on the outside several longer black spines and upon the inside five or six still longer ones. Hind tibiae very dark brown, the base almost whitish, the apex with a long sharp spur, the middle and anterior tibiae brown with the basal fourth whitish yellow. Hind tarsi dark brown, fore and middle tarsi with the first two joints quite pale yellow, the remaining joints blackish.

Wings: pale grey, the stigma dark brown. *Holotype:* One female. Barro, Colorado, Canal Zone, PANAMA. F. M. Hull collector.

***Planes cuprescens* n. sp.**

Fourth abdominal segment sparse, golden, appressed pilose, the third segment brown pilose; mesonotum and scutellum with a strong reddish-brassy lustre. Related to *vagans* Wied., but not closely.

♀. Length 7 mm. *Head:* front and vertex shining black, quite narrow above, barely half as wide as in *chrysopressa*, the middle of the front yellowish-white pubescent, the lower portion shining bare with in the midline a very tiny tubercular bump. In some lights the broad transverse pubescent area is separated by a narrow median line. The pile of the lower half of the front is sparse and pale yellow; of the upper half of front and vertex black. Face extensively pale yellowish white pubescence, the carina not sharply marked, the entire lower half of face in front and along the sides as far back as the edge of the cheeks light brownish yellow. Antennae elongate, the third joint about one and one-half times as long as the first two joints, the apical and dorsal half of the third joint dark brown, the basal and ventral portion light orange, the first two joints light brown, the arista pale yellow, a little darker towards the apex.

Thorax: mesonotum with three pairs of longitudinal bands of pile, the ground color of which is light brassy, almost greenish, the middle one of which is very narrow and all three stripes

are evanescent just past the middle of the mesonotum. There is a patch of golden pile on the posterior margin of the notopleurae which is confluent with a similar patch upon the lateral margin of the mesonotum just posterior to the suture. The pile is also brassy in front of each postcallus and in front of the scutellum. The mesonotum is bright brassy for some distance in front of the scutellum and the yellow pile in front of the scutellum gives way to black anteriorly. Between the yellow pilose stripes above described, the mesonotum is coppery in color. Scutellum light brown in ground color with a bright golden luster and sparse pale pile and a single pair of delicate long yellow bristles, and anteriorly one or more pairs of short yellow bristles. Pile and pubescence of meso- and sternopleurae pale yellow, almost white. There is a prominent almost whitish patch of pubescence on the inside of each humeri.

Abdomen: first segment light brown, yellowish in the middle with a brassy luster; second segment with a pair of large subrectangular light brownish yellow spots which reach the full width over the lateral margin and, along the margin, extend almost to the extreme end of the segment. These light colored spots are divided by the parallel-sided median anterior prolongation of a dark brown posterior border upon the segment which, however, reaches the lateral margins only very narrowly. The anterior prolongation does not quite reach the anterior margin. Third segment somewhat similar to the second segment, although here the segment is barely wider than long, whereas the second segment is barely longer than wide. The large basal lateral spots are almost as pale as those of the third segment; the median brown prolongation is somewhat evanescent and the posterior marginal spot or band of rich brown nowhere reaches the lateral margin. Fourth segment rich shining brown with slight golden reflections; the pile of the dark brown area of second and third segments sepia in color, that of the paler areas and of the fourth segment sparse, brassy yellow; the pile is flat appressed upon the fourth segment.

Legs: hind femora shining black with brassy cast, grossly thickened in the middle, its extreme base brownish, the narrow apex yellowish brown. Fore and middle femora brown, the apex yellowish. Hind tibiae pale yellow basally, brownish on the remainder and the apex has a long sharp spine; the hind tarsi are light brownish yellow, the last two joints dark brown, the whole of the fore and middle tibiae and tarsi pale yellow, their last two tarsal joints barely darker.

Wings: almost hyaline, the stigma pale yellow. *Holotype*: one female, Barro, Colorado, PANAMA. F. M. Hull Collector.

***Baccha sepia* n. sp.**

Entirely dark, *sepia*, spatulate flies, except for pairs of small, diagonal, yellowish-brown fascia upon the abdomen. Sides of face and front diffusely brownish yellow; wings dark brown. Suggestive of *gastroctacus* Wied. in the non-petiolate abdomen.

♂. Length 11 mm. *Head*: vertex and all of front except the narrow brownish-yellow sides, dark *sepia*-brown with pile of the same color. The face is broadly dark brown in the middle and over the tubercle, the color extending down narrowly about the epistoma to cover the cheeks. The sides of the face are broadly brownish-yellow pollinose and this color extends narrowly up along the sides of the front but at the top of the front does not join the extension from the other side. The facial pile is dark brown. The first and second joints of the antennae are brown, the lower basal margin of the short rounded third joint narrowly reddish-brown, the remainder of the third joint and the arista dark brown. The occiput is grey pubescent with a single row of black hairs on the upper third and three or four rows of yellowish white pile below.

Thorax: mesonotum bright shining brassy-brown, covered with dark brown pollen and sparse brown pile. There are quite obscure suggestions of narrow vittae upon the thorax; posteriorly there appear to be three narrow shining chocolate pollinose vittae and viewed from in front there appears to be a single narrow black median streak which probably, however, divides the median pollinose vittae into two parts. Scutellum light brown, the immediate base very narrowly yellowish-brown, the discal pile sparse, long, delicate and black. The ventral fringe pile consisting of seven very long, blackish hairs.

Abdomen: spatulate; but little less wide upon the base than upon the apex. The second segment is barely longer than the third; the third segment one-sixth or one-eighth longer than the fourth segment; fifth segment not quite as long as wide; the first segment is quite short. The color of the abdomen is dark *sepia*-brown and shining, barely lighter upon the second and third segments. The pile upon the first and second segments is brownish black and the pile upon the posterior part of the abdomen is black. In the middle of the second segment, upon either side, is a diagonal, long, quite slender brownish-yellow fascia that fails to reach the margin and does not join the midline. Just before the middle of the third segment there is a fascia similar in every respect, except that it is wider upon

its inner or median half and in fact is gradually drawn out from its medial wider base to a narrow point as it approaches the line of the margin which it does not reach. Upon the fourth segment just before the middle is a similarly colored, though slightly darker, small, irregularly triangular-shaped spot. Upon the fifth segment, separated by a distance equal to those of preceding spots is a pair of brown, basal, elongate, small spots which are drawn out posteriorly.

Legs: the femora are quite slender, dark brown and blackish-brown pilose, the apices of the middle femora lighter brown and the fore pair of femora are noticeably lighter in color than the hind pair. Fore and middle tibiae light brown with a suggestion of a obscure narrow darker annulus near the middle. The hind tibiae are wholly blackish brown with similarly colored pile. All of the tarsi except the basal two-thirds of the hind basal tarsi are light brownish yellow with similarly colored pile.

Wings: broad, but the alula narrow and strap-like; the entire wing including the whole of the stigmal cell is deeply suffused with brown.

Holotype: one male. Sao Paulo, BRAZIL, April 6-8, 1934. J. Lane collector. *Paratype*: one male in Lane's collection; same data.

Mixogaster johnsoni n. sp.

This species is related to *breviventris* Kahl, but the antennae are lighter; the yellow, lateral, thoracic stripe is interrupted and the pattern of the abdominal spots differs.

♀. 10 mm. exclusive of antennae. *Head*: face pale yellow, the cheeks and a median stripe dark brown. Front and vertex dark blackish brown. A pale yellow spot on the eye margins opposite the ocelli and the transverse black band in front of antennae pitted. Antennae black, the base of the third joint narrowly orange and the first two joints dark brown.

Thorax: Mesonotum dully shining black, the humeri, a small spot just before and behind the suture, the postcalli, all of the scutellum except the posterior corners, a prominent vertical stripe on mesopleurae, sternopleurae and almost the whole of the metapleurae pale yellow. A large red spot on the middle of the pteropleurae confluent with the metapleural yellow spot. Metanotum black.

Abdomen: black with slender post marginal yellow borders that expand a little in the posterior corners. First segment almost wholly black, the anterior corners of the second segment obscurely and diffusely yellowish, merging into red and then into black.

Legs. chiefly light reddish brown, the basal two-thirds or less of the hind tibiae or more of the middle tibiae, the apex of the middle femora, front femora and basal half of the front tibiae pale yellow. Tarsi brownish but light in color.

Wings: hyaline, appearing grey from dense grey vittae. The veins very narrowly and inconspicuously margined with brown without definite anterior brown borders.

Holotype: One female, Dennisport, MASSACHUSETTS, Sept. 3, 1935 (J. Bequaert); this specimen is in the collection of the author, presented to the author through the kindness of Dr. Bequaert. *Paratypes:* One female from Lucaston, NEW JERSEY, Aug. 27, C. W. Johnson collector; this is in the Museum of Comparative Zoology; a specimen in the Boston Society of Natural History from Wallingford, CONNECTICUT, July 1, 1922; the Museum of Comparative Zoology at Harvard contains a specimen from Nantucket, MASSACHUSETTS, Sept. 8. All four specimens are females.

On the suggestion of Mr. Nathan Banks, I take pleasure in naming this species in honor of the well known dipterist, Dr. C. W. Johnson, to whom I owe much for early encouragement in the study of Diptera.

Two New Species of *Hesperiidae* from North America. (Lepidoptera).

By E. L. BELL, Flushing, New York.

Undescribed species of *Hesperiidae* still turn up occasionally in the North American fauna despite the fact that the butterflies of this region have been extensively collected and studied for a great many years. This is partially due to the close superficial resemblance of the overlooked species to other closely related species which have already been described and because they occur in areas not usually visited by collectors or by those collectors not interested in collecting *Hesperiidae*.

Many species of *Hesperiidae* are quite locally restricted to a certain type of environment and this may occupy a very limited area and be easily passed by. Our southern and southwestern States seem still to offer interesting possibilities for